AMENDMENTS

Claim amendments:

1. (Original) A method for forming a semiconductor device, comprising:

providing a substrate comprising a layer of silicon germanium having formed thereon a layer of strained silicon;

implanting a species to create point defects in the silicon germanium layer at a source region of an NMOS device to extend the duration of a transient region of n-type dopant diffusivity in the silicon germanium of the source region;

implanting n-type dopant into the silicon germanium layer to form source and drain regions of the NMOS device; and

annealing to activate the n-type dopant in the source and drain regions of the NMOS device, wherein said point defects retard n-type dopant diffusion during said activation.

2. (Original) The method claimed in claim 1, wherein creating said point defects is performed prior to implanting shallow source and drain extensions of the NMOS device.

3. (Original) The method claimed in claim 1, wherein creating said point defects is performed subsequent to implanting shallow source and drain extensions of the NMOS device and prior to forming a spacer around a gate of the NMOS device.

4. (Original) The method claimed in claim 1, wherein creating said point defects is performed subsequent to forming a spacer around a gate of the NMOS device and prior to implanting deep source and drain regions of the NMOS device.

5. (Canceled)

6. (Original) The method claimed in claim 1, wherein creating said point defects is performed subsequent to implanting deep source and drain regions of the NMOS device.

7. (Original) The method claimed in claim 1, wherein creating said point defects is performed prior to implanting said n-type dopant.

8. (Original) The method claimed in claim 1, wherein creating said point defects is performed after implanting said n-type dopant.

9. (Original) The method claimed in claim 1, wherein creating said point defects comprises selectively masking the substrate to protect an active region of a PMOS device on the substrate and to protect a drain region of the NMOS device.

10. (Original) The method claimed in claim 1, wherein said species is also implanted into the silicon germanium layer in a drain region of the NMOS device to extend the duration of a transient region of n-type dopant diffusivity in the silicon germanium of the drain region.

11. (Original) The method claimed in claim 10, wherein creating said point defects comprises selectively masking the substrate to protect an active region of a PMOS device on the substrate.

12. (Original) The method claimed in claim 1, wherein the species implanted to create point defects is germanium.

13. (Original) The method claimed in claim 1, wherein the species implanted to create point defects is silicon.

14. (Original) The method claimed in claim 1, wherein the species implanted to create point defects is an inert element.

15. (Original) The method claimed in claim 1, wherein the silicon germanium layer is formed on a silicon substrate.

16. (Original) The method claimed in claim 1, wherein the silicon germanium layer is formed on a dielectric layer.

17. (Original) The method claimed in claim 1, wherein said annealing is performed for a time that is less than the duration of the transient region of n-type dopant diffusivity in the silicon germanium of the source region having said point defects created therein.

18. (Original) The method claimed in claim 1, wherein said annealing comprises performing multiple anneals, each of said multiple anneals being performed for a time that is less than the duration of the transient region of n-type dopant diffusivity in the silicon germanium of the source region having said point defects created therein.

19. (Original) The method claimed in claim 1, wherein the NMOS device includes strained silicon of the strained silicon layer in a channel region.

20. (Original) A method of forming an NMOS device, comprising:

forming a structure comprising n-type source and drain regions implanted in a silicon germanium layer of a substrate, wherein the silicon germanium of at least

the source region contains point defects created by implantation of a species other than an n-type dopant; and

annealing to activate the source and drain regions, wherein said point defects retard n-type dopant diffusion during said activation.